

# Welcome in the Master programme

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# Master Programme in Physics

MSc in Physics - Study Programme			
1. Semester	2. Semester	3. Semester	4. Semester
Focus Area 1 (12 LP)		Specialization  (15 LP)	Final Seminar  (3 LP)
Focus Area 2 (12 LP)			Master Thesis  (30 LP)
Elective Physics  (36 LP)			
Elective General  (12 LP)			

# Physics Focus (Schwerpunkt)

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- Plasma Physics, Quantum Optics and Quantum Information, Solid State Physics, Soft Matter Physics, Biophysics
- Two focus areas (12 ECTS each) have to be chosen
- In each focus area one experimental (type A) and one theoretical (type B) module (6 ECTS each) have to be chosen
- It is guaranteed that in all focus areas lectures of type A and type B are held regularly (i. e. once per academic year)
- Course enrollment at LSF ([lsf.uni-duesseldorf.de](https://lsf.uni-duesseldorf.de))

# Physics Focus (Schwerpunkt)

Schedule of lectures in the focus areas	
WS 2019/20	SS 2020
Experimental Plasma Physics (A)	Experimental Quantum Optics (A)
Theoretical Plasma Physics (B)	Theoretical Quantum Optics and Quantum Information (B)
Experimental Soft Matter (A)	Theoretical Soft Matter (B)
Semiconductor Devices (A) Magnetism 1 (A)*	Theoretical Solid State Physics (B)
Experimental Biophysics (A)	Theoretical Biophysics (B)

\*additional lectures in experimental solid state physics may be offered in the summer term 2020

# Elective Physics Modules (Wahlpflichtbereich Physik)

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- Focus modules, Laser Physics, Astrophysics, Biophysics, Computational Physics, Numerical Simulations, Advanced Quantum Mechanics, ...
- Modules with a total of 36 credit points have to be chosen
- Course enrollment at LSF ([lsf.uni-duesseldorf.de](https://lsf.uni-duesseldorf.de))

# Elective Physics Modules (Wahlpflichtbereich Physik)

## Modules that can be chosen as elective physics module in WS2019/20

all focus modules (if not used in focus area)

Computational Physics

Astrophysics

Numerical Simulations II

Fundamentals of Medical Physics (Grundlagen der Medizinphysik – Deutsch)

Classical Field Theory

General Relativity

Laser and Laser Applications

Introduction to the Electroweak Sector

Introduction to Hydrodynamics

Atomic Resolved Characterization of Materials

Sun, Coal, Nuclear Fusion

# Elective modules (Wahlbereich)

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- Any university course including physics modules.
- Language courses ([www.deutschkurse.de](http://www.deutschkurse.de), <http://www.spz.hhu.de>), advanced Mathematics, Chemistry, more Physics courses, transferable skills (<http://www.studierendenakademie.hhu.de>),...
- 1st year courses of the Bachelor programmes in physics or mathematics are excluded.
- Credit points for Bachelor courses of other disciplines may be reduced (please ask examination board (Prof. Getzlaff)).
- Graded courses/modules count for final grade.

# 2<sup>nd</sup> year of Master Programme

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## Specialization

- Training for Master thesis
- 15 Credit Points

## Final Seminar

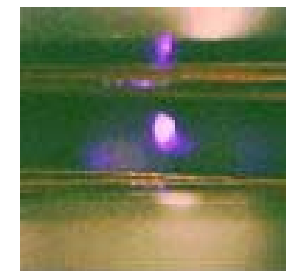
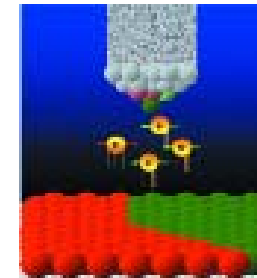
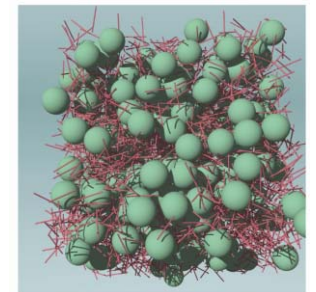
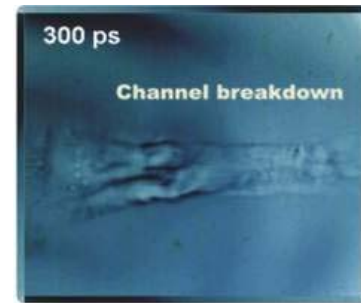
- Presentation of Master thesis
- 3 Credit Points



# Master thesis

Research work in one of our primary research areas:

- Plasma Physics
- Soft Matter
- Solid State Physics/Nano Physics
- Quantum Optics/Quantum Information
- Medical Physics/Biophysics



# Exams

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- Cover entire moduls
- Oral exams (date of exam may be individually arranged) or written tests (fixed date)
- Registration: 1 weeks before exam; this applies also for Bachelor students who already take Master's courses; online-registration (in the Studierendenportal) for written exams and paper-based registration (at Examination office) for oral exams
- **Exception** – seminars: registration with professor
- **Exception** - directed study: registration with professor

# More Information

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Student advisor:

Prof. Dr. Axel Görlitz

[studienberatung.physik@hhu.de](mailto:studienberatung.physik@hhu.de)

Regulations of examination: see webpage  
([Prüfungsordnung](#), currently German only)

Handbook of Modules: see webpage  
(Modulhandbuch)